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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,064	06/20/2003	Robert A. Baydo	081583-0281	5519
23409	7590	03/27/2006		
MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE MILWAUKEE, WI 53202			EXAMINER PEARSE, ADEPEJU OMOLOLA	
			ART UNIT	PAPER NUMBER
			1761	
DATE MAILED: 03/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

CM

Office Action Summary	Application No.	Applicant(s)	
	10/601,064	BAYDO ET AL.	
	Examiner	Art Unit	
	Adepeju Pearse	1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) 42-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 and 52-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-41 and 52-84 in the reply filed on 1/26/2006 is acknowledged. The traversal is on the ground(s) that each of the claims of Group II directly depend from, and therefore include, each of the elements of one or more of the claims in Group I. This is not found persuasive because a different field of search is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention for example a different field of search is shown even though both are classified together, dyeing food products can be done using other methods other than ink jet printing as cited in the previous office action and therefore would require a different field of search. See MPEP 808.02. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1-41 and 52-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (U.S. Pat. No. 6,648,951) in view of Deng et al (U.S. Pat. No. 5,397,387), Shastry et al (US 2004/0021757) and Russell et al (U.S. Pat. No. 6,623,553). With regard to claims 1-5, Chen et al discloses an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol, propanediol and combinations thereof, and a dye (abstract). However, Chen et al failed to disclose the amount of water present in the ink composition. Deng et al teach a food marking jet ink comprising of water in an amount from 0.5% to about 5% as a carrier (col 3 lines 65-66), food grade dyes (col 4 lines 13-32), and a humectant (col 5 lines 15-25). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Deng et al to add water as a carrier for the components in the ink composition.
5. With regard to claim 6, Chen et al discloses an ink composition comprising of 0.05% to 10% by weight of a waterfastness control dye. It would be obvious to expect that the waterfastness control dye is a food grade dye because Chen et al discloses that the ink

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composition is generally safe for use and contact by humans (col 3 lines 44-48). Deng et al teach useful colorants in an amount from about 0.1% to about 20% by weight. It would have been obvious to one of ordinary skill in the art to modify Chen et al with the colorants taught by Deng et al because they are generally recognized as safe (col 4 lines 5-32).

6. With regard to claims 7, 32 and 56, Chen et al failed to disclose food grade dyes comprising FD&C dyes. However, Deng et al teach useful colorants in a food marking dye that are generally recognized as safe such as FD&C Blue #1, FD&C Red #40, FD&C Yellow #5, FD&C Yellow #6, and FD&C Red #3 (col 4 lines 13-16). It would have been obvious to one of ordinary skill in the art to modify Chen et al with the colorants taught by Deng et al because they are generally recognized as safe.

7. With regard to claims 8 and 39-40, Chen et al failed to disclose natural dyes as a colorant. However, Deng et al teach that natural colorants obtained from plants or extracts of insects are also suitable in a food marking ink (col 4 lines 24-27). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Deng et al by incorporating natural dyes as colorants because they are safe.

8. With regard to claims 9, 41 and 59, Chen et al failed to disclose the viscosity of the colored fluid at 60°C. However, Russell et al teach that the viscosity of edible ink is about 2000 to 16000cp at 25°C (col 2 lines 51-56). Russell et al is silent as to the viscosity of the ink at 60°C, however, it would be expected that the ink would have a lower viscosity at the higher temperature. The Office does not have the capability to measure the change in viscosity over the shear rate range as instantly claimed compared to the prior art. Therefore, absent any clear, convincing evidence and/or arguments to the contrary it would be expected that the change in

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viscosity of the ink over the shear rate would be within the range recited by applicant because the colored fluid taught by the prior art discloses the limitations instantly claimed.

9. With regard to claim 10, Chen et al failed to disclose the surface tension of the edible ink. However, Deng et al teach a food marking ink that has a surface tension below 30dynes/cm (col 3 lines 44-45). This value falls within applicant's recited range. It would have been obvious to one of ordinary skill in the art to modify Chen et al with the colored fluid of Deng et al in order to provide a colored fluid that exhibits the same physical characteristics to help control wetting (col 5 line 68).

10. With regard to claims 11, 57, 64 and 73, Chen et al failed to disclose a silt density index for the colored fluid. However, it would be obvious to one of ordinary skill in the art to expect that the ink-jet formulation taught by Chen et al would inherently have this property in order to prevent clogging of the filter.

11. With regard to claims 12-13 and 34-37, Chen et al failed to disclose the content of an inorganic salt. However, Deng et al teach that optional components may be added to a food marking ink as conductivity agents in an amount from 0.2% to about 2%, this range encompasses applicants recited amount. Examples of such components include ammonium, sodium, or potassium salts of organic acids and ammonium chloride (col 5 lines 33-40). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Deng et al by incorporating these inorganic salts as conductivity agents.

12. With regard to claim 14, absent any clear, convincing and/or arguments to the contrary the viscosity of the edible ink would be expected to have the characteristic recited by the applicant.

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13. With regard to claims 15-16, 18, and 30-31, Chen et al discloses an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol, propanediol and combinations thereof, and a dye (abstract). However, Chen et al failed to disclose the amount of water present in the ink composition and the viscosity of the colored fluid at 60°C. Deng et al teach a food marking jet ink comprising of water in an amount from 0.5% to about 5% as a carrier (col 3 lines 65-66), food grade dyes (col 4 lines 13-32), and a humectant (col 5 lines 15-25) and Russell et al teach that the viscosity of an edible ink is preferably 2400 to 3100cp at 25°C (col 2 lines 51-56). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Deng et al and Russell et al to add water as a carrier for the components in the ink composition and also to expect that absent any clear, convincing evidence and/or arguments to the contrary it would be expected that the viscosity of the ink would be reduced with increase in temperature and that the viscosity would stay relatively constant based on shear rate recited by the applicant.

14. With regard to claim 17 and 33, Chen failed to disclose a surface tension of about 35 to 50dynes/cm. However, Shastry et al teach that jet compatible inks have a surface tension of about 15 to about 50dynes/cm ([0040], lines 1-6), this range falls within applicant's range. It would have been obvious to one of ordinary skill in the art to expect that the surface tension of the edible ink recited by the applicant to be within this range in order to be ink-jet compatible.

15. With regard to claim 20-21, Chen et al discloses an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol, propanediol and combinations thereof, and a dye (abstract). However, Chen failed to disclose the content of inorganic salt. Deng et al teach that

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the food marking ink may also contain conductivity agents in an amount from 0.2% to about 2% (col 5 lines 33-35), this range encompasses applicants recited amount. It would have been obvious to modify Chen et al with Deng et al by having inorganic salts as conductivity agents in the edible ink.

16. With regard to claim 19 and 22, Chen et al failed to disclose the viscosity of the colored fluid at 25°C. However, Shastry et al teach that ink-jet compatible inks have a viscosity of about 1 to about 45cp ([0040], lines 1-6), this range falls within applicant's recited range. It would have been obvious to one of ordinary skill to expect the viscosity of the colored fluid to be within the disclosed range in order to be ink-jet compatible.

17. With regard to claims 23-27, Chen et al discloses an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol, propanediol and combinations thereof, and a dye (abstract), this range falls within applicant's recited range. However, Chen et al failed to disclose the viscosity of the colored fluid. Shastry et al teach that ink-jet compatible inks have a viscosity of about 1 to about 45cp ([0040], lines 1-6), this range falls within applicant's recited range. It would have been obvious to one of ordinary skill to expect the viscosity of the colored fluid to be within the disclosed range in order to be ink-jet compatible.

18. With regard to claim 28, Chen et al failed to disclose a colored fluid comprising alcohol. However, Russell et al teach that drying agents can be incorporated into an edible ink formulation such as isopropyl alcohol, ethyl alcohol etc (col 4 lines 15-22). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Russell et al by incorporating alcohols as drying agents.

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19. With regard to claims 29 and 61, Chen et al failed to disclose adding methylparaben or propylparaben. However, Shastry et al teach edible ink that may also include additives such as preservatives ([0039]). Methylparaben and propylparaben are well known preservatives in the art. It would have been obvious to one of ordinary skill in the art to modify Chen et al with Shastry et al by utilizing these preservatives as instantly claimed or any other preserving agent in order to prevent microbial contamination.

20. With regard to claims 52-54 and 62 Chen et al disclose that the ink-jet ink composition can be ingested in small amounts without producing adverse health effect and is generally safe for use and contact by humans. However, Chen et al failed to disclose edible substrates. Russell et al teach edible substrates surfaces that can be printed on such as wafers, cookies, cakes, muffins, doughnuts (col 5 lines 49-55). It would be obvious to one of ordinary skill in the art to expect that the surfaces of these substrates are porous as in claim 53 because they are identical substrates as instantly claimed in claim 54. It would have been obvious to one of ordinary skill in the art to modify Chen et al with Russell et al by utilizing these edible substrate surfaces for printing decorative images.

21. With regard to claim 55, Chen et al disclose an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol also known as glycerin, propanediol and combinations thereof (abstract). As instantly claimed water is present a range from 0-5% and therefore Chen et al does not disclose a water content. Chen et al failed to disclose the viscosity, surface tension and chloride or sulfate content of the colored fluid. However, Shastry et al teach that ink-jet compatible inks have a viscosity of about 1 to about 45cp and a surface tension of

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about 15 to about 50 dynes/cm ([0040], lines 1-6), these ranges fall within applicant's recited range. Deng et al teach that optional components may be added to a food marking ink as conductivity agents in an amount from 0.2% to about 2%, this range encompasses applicants recited amount. Examples of such components include ammonium, sodium, or potassium salts of organic acids and ammonium chloride (col 5 lines 33-40). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Shastry et al and Deng et al in order to have colored fluid that is ink-jet compatible and also incorporate inorganic salts as conductivity agents.

22. With regard to claim 58, Chen et al failed to disclose a specific gravity for the colored fluid. However, it would be obvious to one of ordinary skill in the art to expect that specific gravity will be as instantly claimed in order to be ink-jet compatible.

23. With regard to claim 60, Chen et al failed to disclose a colored fluid comprising ethanol. However, Shastry et al teach an ink-jet ink comprising ethanol ([0035]). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Shastry et al by utilizing ethanol as a dispersant.

24. With regard to claims 63, 65, 72, 74-75 and 81-84 Chen et al disclose an environmentally friendly ink that is generally safe for use and contact by humans (col 3 lines 44-48) comprising from 1% to 90% by weight of a humectant consisting of glycerol also known as glycerin, propanediol and combinations thereof (abstract). As instantly claimed water is present a range from 0-5% and therefore Chen et al does not disclose a water content. Chen et al failed to disclose the viscosity and surface tension of the colored fluid. Shastry et al teach that ink-jet compatible inks have a viscosity of about 1 to about 45cp and a surface tension of about 15 to

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about 50dynes/cm ([0040], lines 1-6), these ranges fall within applicant's recited range. It would be obvious to one of ordinary skill in the art to modify Chen et al with Shastry et al in order for the ink to be ink-jet compatible.

25. With regard to claim 66, Chen et al failed to disclose the viscosity of the colored fluid at 60°C. However, Russell et al teach that the viscosity of edible ink is about 2000 to 16000cp at 25°C (col 2 lines 51-56). Russell et al is silent as to the viscosity of the ink at 60°C, however, it would be expected that the ink would have a lower viscosity at the higher temperature.

26. With regard to claims 67 and 76, Chen et al failed to disclose additives such as surface tension modifiers. However, Shastry et al teach adding ethanol to ink. It is inherent that the ethanol would function as a surface tension modifier.

27. With regard to claims 68 and 77, applicant has not shown in the disclosure as to why docusate sodium is added to the colored fluid. However, docusate sodium is a conventional laxative used in food. It would have been obvious to one of ordinary skill in the art to utilize docusate sodium in the edible ink so that the food product to which the ink is applied could function as a laxative.

28. With regard to claims 69-71 and 78-80, Chen et al failed to disclose the chloride or sulfate content of the colored fluid. Deng et al teach that optional components may be added to a food marking ink as conductivity agents in an amount from 0.2% to about 2%, this range encompasses applicants recited amount. Examples of such components include ammonium, sodium, or potassium salts of organic acids and ammonium chloride (col 5 lines 33-40). It would have been obvious to one of ordinary skill in the art to modify Chen et al with Deng et al in order

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to have a colored fluid that is ink-jet compatible and also incorporate inorganic salts as conductivity agents.

Double Patenting

29. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

30. Claims 1-6, 9-10, 12, 52 and 54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15, 17 and 39-40 of copending Application No. 11/149,660 in view of Ogawa et al (U.S. Pat. No. 4,512,807). With regard to claim 1 of instant application '064, applicant discloses a food grade colored liquid comprising the similar ingredients as claim 1 of co-pending application '660 without the surface tension modifier. However, the claim as filed does not exclude surface tension modifier. Ogawa et al teach an aqueous ink composition for ink-jet printing comprising surface tension modifiers including anionic, cationic, nonionic and amphoteric surface active agents (col 8 lines 38-46) for their art recognized function. Ogawa et al teach a genus of surface active agents under which the

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species claimed by applicant belong. It would be obvious to one of ordinary skill in the art to modify the instant application '064 by adding surface tension modifiers as taught by Ogawa et al for their art recognized function. With regard to claim 12 of '064, applicant recites an inorganic salt content of no more than 0.5wt% which incorporates a range from 0-0.5%. Copending application '660 in claim 17 recites an inorganic salt content of no more than 0.1wt%, which incorporates 0-0.1%. This range is within the instantly claimed range of instant application '064.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adepeju Pearse whose telephone number is 571-272-8560. The examiner can normally be reached on Monday through Friday, 8.00am - 4.30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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